

## CLAIMS

1. Method for managing a battery system including a number of  
serially coupled batteries **c h a r a c t e r i z e d** by the steps of  
5 detecting the battery voltage over the batteries of the  
battery system; and  
utilizing a voltage imbalance between different batteries of the  
system during operation of the battery system.
- 10 2. Method according to claim 1, further comprising the step of  
controlling the voltage distribution of the batteries to create a  
voltage imbalance between different batteries of the battery  
system.
- 15 3. Method according to claim 1, wherein the step of controlling the  
voltage distribution comprises the step of  
controlling the voltage distribution of the batteries to enhance a  
detected voltage imbalance between the different batteries of the  
system.
- 20 4. Method according to any one of preceding claims, further  
comprising the step of  
alternating between batteries of the battery system having  
different voltages during predetermined intervals.
- 25 5. Method according to any one of the preceding claims, wherein the  
step of utilizing the voltage imbalance comprises the step of  
utilizing the voltage imbalance between different batteries of the  
system during the charging and/or discharging of the batteries.
- 30 6. Method according to claim 1, further comprising the step of  
sensing a battery parameter of the battery system; and

utilizing the sensed battery parameter for the control of the voltage distribution

- 5           7. Method according to claim 4, wherein the step of sensing a battery parameter comprises the step of sensing the temperature at the battery system.
- 10           8. Device for managing a battery system including a number of serially coupled batteries **c h a r a c t e r i z e d** by voltage detecting means connected to said battery system and arranged to detect the battery voltage over the batteries of the battery system;  
                DC-to-DC-converting means connected to said battery system;  
                and  
15           a controller connected to said voltage sensing means and to said DC-to-DC-converting means and being arranged to control the voltage distribution over the batteries of the battery system via said DC-to-DC-converting means.
- 20           9. Device according to claim 8, further comprising means for sensing a battery parameter of said battery system connected to said controller and wherein said controller is arranged to utilize said parameter at said control of the voltage distribution.
- 25           10. Device according to claim 9, wherein said means for sensing a battery parameter is a temperature sensor for sensing a temperature at said battery system.
- 30           11. Device according to any one of the preceding claims, further comprising a timer unit connected to said controller

12. Computer readable medium comprising instructions for bringing  
a computer to perform a method according to any one the claims  
1-7.

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